

REMARKS

Claims 1, 2, 4 and 7-16¹ are all the claims pending in the application. Applicant cancels claims 3 and 6, and adds claim 17 by way of this Amendment.

Status of Claim to Foreign Priority

The Examiner has not acknowledged Applicants' claim to foreign priority, and has not indicated receipt of the certified copy of the Priority Document. A review of the USPTO Pair Website indicates that the Office did receive the certified copy of the Priority Document that was filed on December 8, 2003. Applicants again request that the Examiner formally acknowledge receipt of the claim to priority in the next Office Action.

Status of Drawings

The Examiner has not indicated acceptance of the replacement drawings filed June 16, 2004. Applicants again request that the Examiner indicate acceptance of the drawing figures in the next Office Action.

Status of Information Disclosure Statements

The Examiner has not returned the initialed Form PTO/SB/08 filed with the Information Disclosure Statement on **December 8, 2003**. A review of the USPTO Pair Website indicates that the Office did receive the Information Disclosure Statement as filed on December 8, 2003. Applicants again request that the Examiner return the initialed copy of the Form PTO/SB/08 filed December 8, 2003 with the next Office Action.

¹ The Examiner has indicated that claims 1-16 are all the pending claims. However, claim 5 was canceled in the Amendment filed on May 19, 2006.

Claims

Claim 1 is objected to because of a spelling error. Applicants amend the claim to obviate this objection.

Claims 1-4, 6-8, 10 and 12 are rejected under 35 U.S.C. § 102(b) as being anticipated by Nakamura (6,740,966).

Claims 9-11 and 13-16 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Nakamura (6,740,966).

Analysis of the Prior Art Rejections

The present invention is directed to an improvement for a TAB tape carrier. In a TAB tape carrier, a plurality of wiring circuits are provided at regular intervals along a tape carrier. Electronic parts, such as semiconductor devices, are mounted to each of the wiring circuits in a continuous production method.

Conventionally, when a defective wiring circuit is detected on a tape carrier, an electronic part is not mounted to that defective wiring circuit. Thus, this defective circuit is skipped over, which leads to a lower yield in production for the tape carrier.

It is not desirable to punch out and replace the defective wiring circuits, as is done in multi-chip TCP, because the replaced wiring circuit is not level with the others, which makes it difficult to subsequently mount the electronic parts efficiently.

Thus, the present invention overcomes these problems by providing a tape carrier in which individual flexible wiring boards are mounted on a carrying support film, after they have been inspected for defects. With this feature, it is not necessary to skip over defective wiring

circuits, or to punch out and replace defective wiring circuits, as in the conventional tape carriers, because such defective wiring circuits are not provided on the tape carrier in the first place.

Applicants respectfully submit that Nakamura fails to teach or suggest the claimed invention, whether taken alone or in combination, because Nakamura fails to disclose a flexible wiring board that is capable of being inspected prior to being mounted on an opening of a carrying support film.

Nakamura fails to teach or suggest individual pieces of wiring boards separate from the tape carrier. Nakamura discloses a structure in which a belt-like insulating tape has a plurality of wiring patterns disposed thereon and they are disposed on the reinforcing tape, and thus, the structure disclosed in Nakamura is different from that of the present invention in which a plurality of individual wiring boards are mounted on a carrying support film.

More specifically, Nakamura teaches that the device regions 11, i.e. wiring circuits 5, are created directly on the support film (see col. 8, lines 31 to col. 9, line 4). Thus, this reference fails to teach or suggest individual wiring boards that are preformed and then capable of being inspected before being placed on a tape carrier. Since the device regions 11 are created on the tape carrier, it would be impossible for them to be capable of being inspected before being mounted on the tape carrier.

This feature of the present invention is beneficial for the reasons stated above, namely, to improve the production efficiency of a TAB tape carrier by avoiding the existence of a defective wiring circuit on a tape carrier and the resultant necessary procedures to correct such defects on a tape carrier.

According to the present invention, the yield on continuous production can be prevented from being lowered and improvement in production efficiency can be attained.

Furthermore, according to the present invention, since the carrying support film has a plurality of opening portions, electronic parts can be mounted on the other surface of the carrying support film even when the flexible wiring boards are mounted on one surface of the carrying support film. In this regard, the purpose of forming bores (openings) in Nakamura is to make the separation step easier (column 8, lines 24-30), which is different from that of the present invention.

For at least the foregoing reasons, claim 1 is patentable.

With respect to the dependent **claims 2, 4, 7-17**, these claims are patentable for at least the same reasons as claim 1, by virtue of their dependency therefrom.

Also, Applicants add independent **claim 17** directed to the circuit sheet 2. The circuit sheet is discussed on pages 8-9 of the specification and illustrated in Figs. 2A-2C. As mentioned above, Nakamura fails to teach or suggest forming a circuit sheet according to the present invention, because Nakamura discloses that the wiring circuits are created directly on the tape carrier instead of being added individually to the tape carrier after being inspected for defects as in the present invention.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

AMENDMENT UNDER 37 C.F.R. § 1.116
U.S. Appln. No. 10/728,911

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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